

What is Claimed Is:

- 1 1. A magnetic recording medium comprising:
2 a non-magnetic substrate;
3 an underlayer on a non-magnetic substrate;
4 a first magnetic layer on the underlayer; and
5 a second magnetic layer on the first magnetic layer; wherein:
6 the first magnetic layer exhibits a higher signal-to-
7 media-noise ratio (SMNR) than the second magnetic layer; and
8 the second magnetic layer exhibits a higher magnetic
9 saturation (Ms) than the first magnetic layer.
- 1 2. The magnetic recording medium according to claim 1, wherein:
2 the first and second magnetic layers each contains cobalt (Co),
3 chromium (Cr) and platinum (Pt);
4 the first magnetic layer has a higher Cr content than the second
5 magnetic layer; and
6 the second magnetic layer has a higher Co content than the first
7 magnetic layer.
- 1 3. The magnetic recording medium according to claim 2, wherein:
2 the first magnetic layer contains:
3 about 20 to about 22 at.% Cr;
4 about 8 to about 10 at.% Pt;
5 about 6 to about 8 at.% boron (B); and
6 the remainder Co; and
7 the second magnetic layer contains
8 about 12 to about 16 at.% Cr;
9 about 6 to about 12 at.% Pt;
10 about 2 to about 4 at.% tantalum (Ta); and
11 the remainder Co.

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1 4. The magnetic recording medium according to claim 2, wherein:
2 the first magnetic layer contains:
3 about 20 to about 22 at.% Cr;
4 about 8 to about 10 at.% Pt;
5 about 6 to about 8 at.% B; and
6 the remainder Co; and
7 the second magnetic layer contains:
8 about 12 to about 16 at.% Cr;
9 about 6 to about 12 at.% Pt;
10 about 6 to about 8 at.% B; and
11 the remainder Co.

1 5. The magnetic recording medium according to claim 1, wherein
2 the underlayer is a composite comprising two underlayers each containing
3 chromium (Cr).

1 6. The magnetic recording medium according to claim 5,
2 comprising:
3 a first underlayer comprising a Cr alloy on the non-magnetic
4 substrate; and
5 a second underlayer comprising a Cr alloy different from the Cr
6 alloy of the first underlayer, on the first underlayer.

1 7. A magnetic recording medium comprising:
2 a non-magnetic substrate; and
3 means for achieving a high SMNR, narrow half-amplitude
4 pulse width, high resolution and high magnetic saturation.

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